

WHAT IS CLAIMED IS:

1. A near field light generating device, comprising:  
a light emitting element that emits light from its exit  
surface; and

5 a thin film that is formed on the exit surface and gains a  
light transmitting property when irradiated with light from said  
light emitting element.

2. A near field light generating device according to Claim  
1, wherein said thin film changes its state from crystalline to  
amorphous when irradiated with light from said light emitting  
element.

3. A near field light generating device according to Claim  
1, wherein said thin film returns to a crystalline state from  
an amorphous state when the light emission is stopped.

4. A near field light generating device according to Claim  
1, wherein said thin film essentially consists of inorganic  
material having a melting point of 350°C or lower.

5. A near field light generating device according to Claim  
1, wherein said thin film essentially consists of inorganic  
20 material having a melting point of 150°C or lower.

6. A near field light generating device according to Claim  
1, wherein said thin film essentially consists of organic  
material having a low melting point.

7. A near field light generating device according to Claim 1, further comprising a heat diffusion preventing film between the light exit surface and the thin film.

8. A near field light generating device according to Claim 1, wherein said light emitting element includes semiconductor laser device.

9. A near field light generating device, comprising:  
a light emitting element that emits light from its exit surface; and  
a thin film that is formed on the exit surface and gains a light transmitting property when heated.

10. A near field light generating device according to Claim 9, wherein said thin film changes its state from crystalline to amorphous when heated.

11. A near field light generating device according to Claim 9, wherein said thin film returns to a crystalline state from an amorphous state when the heating is stopped.

12. A near field light generating device according to Claim 9, wherein said thin film essentially consists of inorganic material having a melting point of 350°C or lower.

13. A near field light generating device according to Claim 9, wherein said thin film essentially consists of inorganic material having a melting point of 150°C or lower.

*SiO<sub>2</sub>: amorphous*

*SiO<sub>2</sub> 3,900.863  
5,355,385  
AlO  
SiO<sub>2</sub>: SiO  
low melting  
case*

14. A near field light generating device according to Claim 9, wherein said thin film essentially consists of organic material having a low melting point.

5 ~~15~~ 15. A near field light generating device according to Claim 9, further comprising a heat diffusion preventing film between the light exit surface and the thin film

16. A near field light generating device according to Claim 9, wherein said light emitting element includes semiconductor laser device.

17. A near field light generating device according to Claim 9, wherein said thin film is heated by the light emitted from said light emitting element.

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